

Original Research Article

Clinical profile of patients presenting with gastrointestinal bleeding in a tertiary care hospital

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ABSTRACT

Background: It has been seen that Upper gastrointestinal bleeding (UGIB) is one of the most mutual gastrointestinal emergencies for physicians and surgeons. In the recent past studies, there is raised incidence of peptic ulcer with raised frequency of bleeding from it. The range of upper GI bleeding fluctuates from region to region and relies on the status of the centre in hospital hierarchy.

Methods: An observational, cross-sectional, hospital-based, single centre study was carried out on 150 patients admitted in tertiary care hospital with the presentation of GI bleeding. A detailed patient history was taken followed by required clinical and laboratory investigations. Then patients were resuscitated and subjected to endoscopic procedure.

Results: 150 patients were treated among which 105 were male (70%) and 45 females (30%). 111 patients (74%) had upper GI bleed, 28 patients (19%) had lower GI bleed, and 11 patients (7%) had obscure bleed. 41% of the population were diagnosed to have peptic ulcer (gastric or duodenal) as the cause behind GI bleed forming the main aetiology in this study population, 26% had oesophageal varices constituting second important cause of GI bleed, and 7% had obscure bleed. Those who had undergone UGI endoscopy or sigmoidoscopy or colonoscopy within last one month and who were having GI bleed following GI surgery were excluded from the study.

Conclusions: It was seen that upper GI bleeding is more common than lower GI bleeding. Peptic ulcer was the chief cause resulting in gastrointestinal bleed followed by oesophageal varices. Gastrointestinal bleeding was more common in male population affecting mainly subjects over 40 years of age.

Keywords: Melena, Obscure bleed, Oesophageal varices, Peptic ulcer Upper gastrointestinal bleeding

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is arbitrarily defined as bleeding from a source proximal to the ligament of Treitz (which connects the fourth part of duodenum to the diaphragm near the splenic flexure of colon). While lower gastrointestinal bleed (LGIB) includes any bleed extending from ligament of Treitz to the rectum.¹ The bleeding from GIT can present in five different ways. Hematemesis is defined as vomiting of blood, which is indicative of bleeding from the

oesophagus, stomach, or duodenum. Hematemesis includes vomiting of bright red blood, which suggests recent or ongoing bleeding, and dark material (coffee ground emesis), which suggests bleeding that stopped some time ago. Melena is defined as black tarry stool and results from degradation of blood to haematin or other hemochromes by intestinal bacteria. Melena signifies bleeding that originates from UGI tract, small bowel, or proximal colonic source. Melena generally occurs when 50 to 100 mL or more of blood is delivered into the GI tract (usually the upper tract), with passage of

characteristic stool occurring several hours after the bleeding event.^{2,3} Hematochezia refers to bright red blood per rectum, and suggests active UGI or small bowel bleeding, or distal colonic or anorectal bleeding. Occult gastrointestinal bleeding refers to subacute bleeding that is not clinically visible (positive faecal occult blood test (stool guaiac) or iron deficiency anemia without visible blood in the stool). Obscure gastrointestinal bleeding is bleeding from a site that is not apparent after routine endoscopic evaluation with esophagogastroduodenoscopy (upper endoscopy) and colonoscopy, and possibly small bowel radiography.³

The estimated annual incidence is approximately 40-150 cases per 10000 persons for upper GIB and 20-27 cases per 100000 persons for lower GIB. Mortality rate for both upper and lower GIB is estimated to be around 4%-10%.^{4,5} Bleeding is self-limited in 80% of patients with UGI bleed, even without specific therapy.^{6,7} Of the remaining 20% who continue to bleed or rebleed, the mortality rate is 30% to 40%.⁸

A variety of conditions can cause UGIB, and bleeding from peptic ulcer remains the commonest cause accounting for approximately (31-67%) of the cases, followed by oesophageal varices (6-39), Mallory-Weiss tears (2-8%), drugs (NSAIDs, heparin, steroid, calcium channel antagonist, coumarin derivative, aspirin+alcohol). Other causes include neoplasm, gastroduodenal erosions and arteriovenous malformations.⁹

Causes for LGIB may range from diverticulosis, colon cancer and polyps, colitis (infectious and non-infectious), ischemic colitis, inflammatory bowel disease, angiodysplasia, rectal ulcers, polyps, haemorrhoids etc. The spectrum of causes of GIB varies by region and centre according to healthcare hierarchy. Diverticulosis is generally the most common cause of acute LGI bleeding, occurring in approximately 30% of cases.⁵

METHODS

An observational, cross-sectional, hospital-based, single centre study was carried out on patients admitted in general medicine department of Nilratan Sircar Medical College & Hospital from January 2015 to June 2016. A total 150 patients were included in this study. Adult patients of both sexes presenting with gastrointestinal bleeding irrespective of underlying cause were included. Those who had undergone UGI endoscopy or sigmoidoscopy or colonoscopy within last 1 month and who were having GI bleed following GI surgery were excluded from the study. A detailed personal and family history was taken followed by necessary clinical and laboratory investigations. First the patients were resuscitated followed by thorough clinical examination. Routine blood biochemistry and ultrasonography of whole abdomen was done. After initial hemodynamic stabilization was achieved patients were subjected to

endoscopic procedure (biopsy from the lesion when indicated) within 72 hours to determine the cause. Criteria for acute gastrointestinal bleed and all technical terms like upper GI bleeding, continuous bleeding, rebleeding, hematemesis, melena, hematochezia, and severity of bleeding were defined according to the criteria of American Society of Gastrointestinal Endoscopists (ASGE).

RESULTS

Among total study population of 150 patients, 105 were male (70%) and 45 females (30%). The mean age of the study population was 44.9 yrs. with minimum age being 15 yrs. and maximum age 76 yrs. Standard deviation (SD) 11.27. Maximum number of subjects was in the age group 41 to 50 years (Table 1).

78 patients (52% out of 150) had a history of regular alcohol intake, 39 patients (26%) had a history of intake of drugs like NSAIDs, antiplatelet, anti-coagulants, steroids, etc. 15 patients (10%) had a history of blood dyscrasias, coagulation disorders, cerebrovascular accident (CVA), inflammatory bowel disease (IBD), all of which have been included in others category. 36 (24%) patients had no such relevant history. 68 patients (45.3% out of 150) presented with hematemesis (24 had only hematemesis no melena), 96 patients (64%) presented with melena (out of which 53 had only melena no hematemesis), 47 patients (31.3%) had both hematemesis and melena and 29 patients (19.3%) presented with hematochezia (Table 1). 62 patients (41% out of 150) were diagnosed to have peptic ulcer (gastric or duodenal) as the cause behind GI bleed, 39 patients (26%) had oesophageal varices, 4 (03%) had carcinomas (gastric, colonic, rectal), 7 (05%) hematological disorders (aplastic anemia, acute leukemia, DIC), 8 (05%) had internal haemorrhoids, 11 (07%) had obscure bleed and in 19 patients (13%) GI bleed was caused by either Mallory Weiss tear or IBD, colitis, portal gastropathy, colonic polyp or snake bite (which has been put together under the "others" category) (Table 1).

Out of total 150 patients 111 (74%) had upper GI bleed as diagnosed on endoscopy, 28 (19%) had lower GI bleed, and 11 (07%) had obscure bleed. 6 patients (04%) had a platelet count <50,000/cmm, 35(23%) had platelet between 50,000-1,00,000, 31 (21%) had between 1,00,000-1,50,000; and 78 patients (52%) had platelet count more than 1,50,000. Maximum platelet count in this study was 4.2 lakh/cmm and minimum was 10,000/cmm. Mean value was 1,77,726.66 with the SD 94,172. 41 patients (27.3%) patients had thrombocytopenia at the time of presentation. Among the 62 cases of peptic ulcer, 47 patients (76%) tested positive for the H. pylori infection and 15 (24%) had tested negative. 62 patients presented with peptic ulcer (56% out of 111), 39 (35%) presented with oesophageal varices and 10 (09%) patient presented with upper gastrointestinal bleeding due to other causes (Table 1).

Table 1: Distribution of patients on different study parameters.

Sex	Male	Female					
Number of subjects (%)	105(70%)	45(30%)					
Age (in years)	<=20	21-30	31-40	41-50	51-60	61-70	71-80
Number of subjects (%)	06 (04%)	18 (12%)	30 (20%)	50 (34%)	33 (22%)	11 (07%)	02 (01%)
History	Alcohol	Drug intake	Others	None	Alcohol + drug	Alcohol +others	
Number of subjects (%)	78 (52%)	39 (26%)	15 (10%)	36 (24%)	15 (10%)	03 (02%)	
Symptoms at presentation	Hematemesis	Melena	Hematemesis + melena	Hematochezia			
Number of subjects (%)	68 (45.3%)	96 (64%)	47 (31.3%)	29 (19.3%)			
Etiology	Peptic ulcer	Oesophageal varices	Portal gastropathy	Mallory weiss tear	Gastric carcinoma	Snake bite	Acute leukaemia
Number of subjects	62	39	3	4	1	5	4
	Aplastic anaemia	Colonic carcinoma	IBD	Internal hemorrhoids	Colitis	Colonic polyp	Obscure bleed
Number of subjects	3	3	3	8	3	1	11
Type of GI bleed	UGIB	LGIB	Obscure bleed				
Number of subjects (%)	111 (74%)	28 (19%)	11 (07%)				
Platelet count (in lacs/cmm)	<50000	50000 - <1	1 lakh - <1.5	>= 1.5			
Number of subjects (%)	06 (04%)	35 (23%)	31 (21%)	78 (52%)			
H. Pylori kit test	Positive	Negative					
Number of subjects (%)	47(76%)	15(24%)					
Upper GI bleed based on etiology	Peptic ulcer	Esophageal varices	Others				
Number of subjects (%)	62(56%)	39(35%)	10(09%)				

DISCUSSION

Upper gastrointestinal bleeding (UGIB) is important and potentially serious worldwide problem.² Despite developments in diagnosis and treatment, mortality and morbidity have continued more or less constant. Bleeding from the upper gastrointestinal tract (GIT) is about 4 times as common as bleeding from the lower GIT.^{2,3} There are very few studies on accessing clinical profile of GI bleeding from India.

In spite of many advances like push enteroscopy, celiac/mesenteric angiography, intraoperative endoscopy, and 99Tc RBC scan to identify the reason of UGIB, upper gastrointestinal endoscopy (UGIE) remains the

prime modality of assessment. The diagnostic yield of UGIE is greater to that of barium studies. Endoscopy has a sensitivity of 92% when the whole stomach and proximal duodenum can be cautiously visualized, and specificity that approaches 100%; by comparison barium radiography has a sensitivity of only 54%.¹⁰ Upper GI endoscopy was the practical option used to diagnose the cause of UGIB in the present study.

This study was conducted with an aim to study the clinical profile of patients presenting with gastrointestinal bleeding. The study included medically ill adult patients of both sexes with gastrointestinal bleeding. A total of 150 patients were studied with the help of detailed history taking, thorough clinical examination, blood

investigations, USG abdomen, UGI endoscopy and colonoscopy. The male: female ratio was 2.3:1. Fifty patients belonged to the age group 41-50 years constituting 34% of the population which formed the majority. Mean age of the study population was 44.9 years, age range being 15 to 76 years. 45% of subjects presented with hematemesis and 64% presented with melena. 31% had both hematemesis and melena at presentation and 19% presented with hematochezia.

After all relevant investigations it was noted that out of the 150 patients 111 (74%) had upper GI bleed, 28 (19%) had lower GI bleed, and 11 (7%) had obscure bleed. 41% of the population were diagnosed to have peptic ulcer (gastric or duodenal) as the cause behind GI bleed forming the main aetiology in this study population, 26% had oesophageal varices constituting second important cause of GI bleed, and 7% had obscure bleed.

In a study by Singh SP and Panigrahi MK conducted during 2007 to 2010, the study population comprised of 608 patients of UGIB from Odisha. The majority were male (85.53%), and the male: female ratio was 6:1 with the mean age of 42±18.2 years. 11 In our study too males formed the majority (70%) and the male to female ratio was 2.3:1 and the mean age was 44.9 ±11.2 years. The commonest cause of UGIB was duodenal ulcer (DU), accounting for 57.6% cases, variceal bleeding was responsible for bleed in only 12.8%. But in our study peptic ulcer (duodenal or gastric) constituted 55.9% of UGIB and varices was found to be the cause behind UGIB in 35.8% cases.

In a study by Minakari M and colleagues in Alzahra referral hospital (in Isfahan) during 2010-2015, a total 4747 patients were enrolled in the study (69.2% male, mean age = 55.46 ± 21.98 years). Hematemesis was the most frequent presenting symptom (63.5%). Peptic ulcer (duodenal ulcer in most cases) was seen as the main reason for UGIB (42.4%). The aetiology behind UGIB is similar in our study.¹³

The limitations of study was period of study was short spanning only 18 months. The sample size was small. A larger sample size is required to deduce conclusion that can be applicable to the general population. In our institute there is a delay of about 48 to 72 hours between admission and endoscopy due to lack of emergency services. So, the diagnosis is possibly missed in a number of times and bleed has to be labelled as obscure bleed. We got fewer numbers of patients with lower gastrointestinal bleed as causes of LGIB also got admitted in the surgical ward.

CONCLUSION

Through this study we concluded that upper gastrointestinal bleeding is more common than lower gastrointestinal bleeding. Peptic ulcer was the chief cause resulting in gastrointestinal bleed followed by

oesophageal varices. Gastrointestinal bleeding was more common in male population affecting mainly subjects over 40 years of age. Melena was a more common presentation in our study population compared to hematemesis. In our study we got only 28 patients out of 150 with lower gastrointestinal bleed so it was difficult to deduce the most common aetiology.

DECLARATIONS

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Ethical approval: The study was approved by the institutional ethics committee

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